

A NEW SPECIES OF THE GENUS *GASTRANCISTRUS* WESTWOOD (HYMENOPTERA: PTEROMALIDAE) FROM INDIA¹

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¹Accepted September 27, 2005

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A new species of Pteromalidae, namely *Gastrancistrus pantnagarensis* Gupta and Khan sp. nov. from Uttarakhand, India has been described and illustrated, and a revised key to the species of Indian *Gastrancistrus* given.

Key words: Hymenoptera, Pteromalidae, *Gastrancistrus pantnagarensis* sp. nov.

INTRODUCTION

The genus *Gastrancistrus* was erected by Westwood in 1833 with *Gastrancistrus vagans* Westwood as the type species. Boucek (1988) enlisted the already known synonyms of *Gastrancistrus*, namely *Glyphe* Walker (Walker 1834), *Tridymus* Ratzeburg (Ratzeburg 1848) and *Tripedias* Forster (Forster 1856).

Some of the species are extremely different from the type species and the number of generic synonyms reflects the fact that the genus is very plastic. The number of teeth on mandibles, which are constant as four in European species, varies greatly in Indian species. The females of the genus, as understood by Boucek (1988), have five funicular segments and the males six. In all the species, so far described, the clypeal margin is only slightly or moderately produced.

Boucek (1986) described a new subgenus *Magistrus* with *Gastrancistrus (Magistrus) cherryi* as the type species from *Procontarinia matteiana* galls on mango leaves in Bangalore, India. Narendran *et al.* (2001) described a new species *G. bengalicus* which stands between *Amuscidea* Girault and *Gastrancistrus* Westwood.

Boucek (1988) stated that when better known, the presently separated genera *Amuscidea* Girault (Girault 1913) and *Premiscogaster* Girault (Girault 1933) will be merged with *Gastrancistrus*. Since the species *G. bengalicus* and *G. bidentatus* show intermediate characters between *Gastrancistrus* and *Amuscidea*, Narendran *et al.* (2001) reduced *Amuscidea* to a new junior synonym and a subgenus of *Gastrancistrus* Westwood. In India, so far, only two species, namely *G. muneswari* (Yadav) (Yadav 1978) and *G. (Magistrus) cherryi* Boucek are known. Boucek (1986) synonymised *Gastrancistrus mangiferae* (Subba Rao 1981) with *G. muneswari* Yadav. In this paper a new species is described and a revised key of Indian species given. The holotype is

deposited in the collections of the Govind Ballabh Pant University of Agriculture & Technology, Pantnagar, Uttarakhand.

MATERIAL AND METHODS

The specimens were studied in the Biological Control Laboratory, Department of Entomology at the Govind Ballabh Pant University of Agriculture & Technology, Pantnagar, using a trinocular microscope. The drawings were made using Camera Lucida. Leaves parasitized with eggs were collected and stored in labelled jars for the emergence of parasitoids. The collected specimens were preserved in 70% alcohol in glass vials. Permanent slides were prepared to enable detailed study of important structures of the parasitoids.

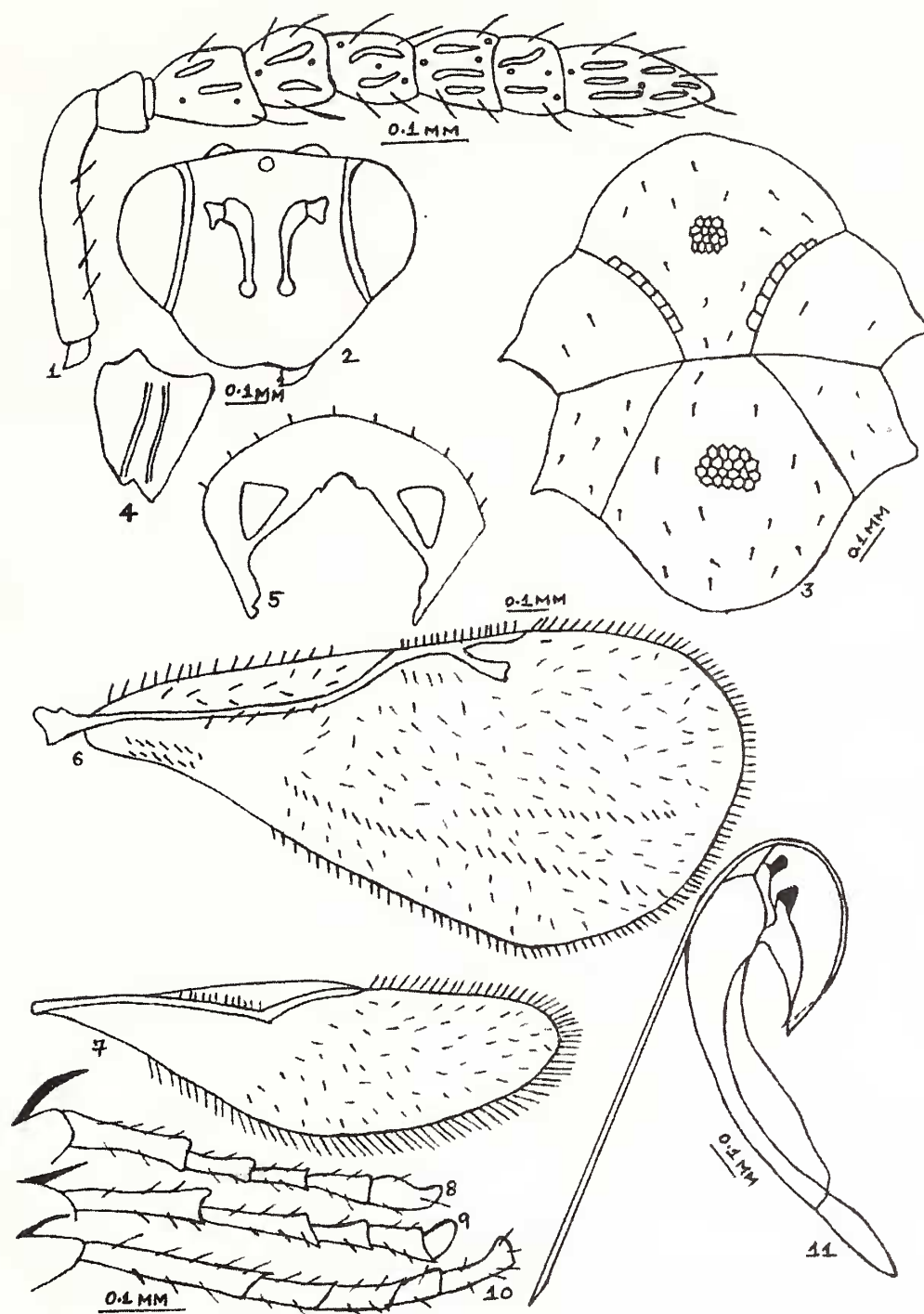
Slides were prepared using the method mentioned below:

- (1) It was ensured that the specimen was dry. As the specimen to be mounted was in alcohol, it was dried in an oven at about 60° C before proceeding.
- (2) Specimen was soaked in a 7:5 mixture of glacial acetic acid (or lactic acid) and lacto phenol (or chloral phenol) at room temperature for 24-72 hrs, after which the specimens were cleared and the body shape returned to normal. The cleared specimens were mounted in Hoyer's medium.

RESULTS AND DISCUSSION

Gastrancistrus pantnagarensis sp. nov. (Figs 1-11)

Female: Body length about 2.50 mm (Holotype); general body colour black; eyes brown and ocelli yellowish brown; antennae uniformly yellowish brown; lateral arms of pronotum black and middle portion blackish brown; thorax black with coarse reticulation; wings hyaline; legs brown; fore and middle



Figs 1-11: *Gastrancistrus panthagarensis* sp. nov. Female: 1. Antenna; 2. Head in frontal view; 3. Thorax; 4. Left mandible; 5. Pronotum; 6. Forewing; 7. Hindwing; 8. Tarsi of fore leg; 9. Tarsi of mid leg; 10. Tarsi of hind leg; 11. Ovipositor

tibia and tarsi brownish black, hind coxa and femur black, hind tibia brown; abdomen black with bright reflection.

Head: Wider than long in facial view (0.71:0.53); frontovertex distinctly wide, more than half of the total head width (0.36:0.71); ocelli arranged in obtuse angle triangle; POL slightly smaller than OOL (0.06:15); diameter of media ocelli

(0.035) smaller than POL (0.035:0.06), malar space smaller than total eye width (0.18:0.71); antennae inserted not so low on face; width of frons between eyes is 6x more than distance between two toruli (0.36:0.06); scrobe shallow, not reaching front ocellus; clypeus not distinctly separated by groove or line from face; right and left mandible tridentate (two teeth

and a truncation) with blunt margins, maxillary and labial palpi 4 and 2 segmented respectively. Antennal formula 11151; with one ring segment; scape not exceeding fronocellus, more than 9.5x times as long as wide (0.39:0.04); pedicel slightly wider than long (0.06:0.05); funicle five segmented; first funicle segment longer than wide (1.2:0.099); second funicle segment slightly wider than long (0.095:0.09); third segment longer than wide (0.095:0.085); fourth segment as wide as long (0.09:0.09); fifth segment wider than long (0.09:0.08); club unsegmented and two times longer than wide (0.17:0.08).

Mesosoma: Densely setose with coarse reticulation; pronotum narrow in dorsal view; antero-lateral arm of pronotum bend inside anterior margins concave and posterior margin convex; mesosoma longer than wide (0.12:0.8); mesoscutum shorter than scutellum (0.55:0.625), mesoscutum wider than head in dorsal aspect (1.07:0.71); mesoscutum wider than scutellum (1.07:0.94); axillae triangular, widely separated from each other, notauli deep and complete, with distinct rectangular cells.

Mesoscutum and scutellum with dense setae; scutelloaxillar sutures meeting the hind margin of mesoscutum at approximately almost at the same point as the hind ends of notauli; apex of scutellum rounded; mesoscutum and scutellum reticulate. Propodeum smooth without median carina; plicae absent; spiracle oval, callus not pubescent; hind coxa not pubescent on dorsal side. Forewing two times as long as wide (1.57:0.8); densely setose; costal cell broad and sparsely setose; speculum broad and closed below; submarginal vein almost four and a half times marginal vein (0.8:0.18); post marginal vein shorter than stigmal vein (0.15:0.18); basal cell almost bare; marginal fringes short, spaced by a distance almost equal to half their length. Hind wing 3.3 times longer wide (1.26:0.38); disc setose. Fore tibial spur shorter than basitarsus (0.11:0.15); middle tibial spur slightly shorter than basitarsus (0.07:0.17). Hind coxa longer than wide (0.5:0.3); hind femur about four times as long as wide (0.78:0.22); hind tibia slightly longer than hind femur (0.82:0.78).

Metasoma: 2.3 times as long as mesosoma; longer than wide (1.35:0.75), longer than combined length of pronotum, mesoscutum and scutellum (1.35:0.85); ovipositor projecting (exserted); first valvifer triangular, third valvulae three times as long as wide (0.23:0.7), second valvifer longer than the length of outer plate of ovipositor, outer plate of ovipositor five and a half times as long as wide (0.84:0.15).

Male: Not known

Holotype (Female): India, Pantnagar (29° N, 79° E), unidentified egg patch on *Saccharum officinarum* plant, 10.ix.2004, Hym., Ptero., 01 BC, Ankita Gupta.

Paratype: 6 females of same data as Holotype. Hym., Ptero., 02 BC, 03 BC, 04 BC, 05 BC, 06 BC, 07 BC Ankita Gupta.

Host: Unidentified egg mass on *Saccharum officinarum*.

Remarks: This species *G. pantnagarensis* sp. nov. differs from *G. (G.) bengalicus* Narendran in having F1 and F3 longer than wide, mesoscutum wider than head width, scutellum wider than long, absence of frenal line, mesoscutum and scutellum reticulated and scutellum more coarsely reticulated as compared to the mesoscutum. This species differs from *G. (M.) cheryi* Boucek in not having eye angularly pointed toward sides.

REVISED KEY TO INDIAN SPECIES OF *GASTRANCISTRUS* WESTWOOD

1. Mandibles bidentate; eye angularly pointed towards side; scutello-axillar sutures meeting a little mesad of the hind end of notauli *G. (M.) cheryi* Boucek
- Mandibles tri or quadridentate; eye not angularly pointed towards side; scutello-axillar sutures meeting at the hind margin of mesoscutum at approximately the same point as the hind ends of notauli 2
2. Mandibles tridentate; F1 to F4 wider than long 3
- Mandibles quadridentate; F1 to F4 longer than wide 4
3. Mandibles tridentate when viewed from outside (with a tubercle inside on mandible); wider than long; F1 to F4 not longer than wide; occiput deeply concave; legs including coxae yellowish white; head subtriangular *G. (G.) bengalicus* Narendran
- Mandibles tridentate (2 blunt tooth and a truncation); F2 slightly wider than long and F4 almost as wide as long; F1 and F3 longer than wide, legs brown, coxa dark brown *G. (G.) pantnagarensis* sp. nov.
4. Mandibles quadridentate; F1 to F4 segments longer than wide; occiput not deeply concave; fore coxa brownish black; hind coxa pale yellowish brown with a black metallic patch above; colour of femora pale yellowish brown with base and apex paler, head not as above *G. (G.) muneshwari* Yadav

ACKNOWLEDGEMENT

We are grateful to the Indian Council of Agricultural Research for providing financial assistance under the project entitled 'Biodiversity of some Parasitic Hymenoptera of Uttaranchal and adjoining areas of northern India'.

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